EXHIBIT B 210.8(B)

From John Plourde

Again I feel this is another cost saving amendment.

Commercial kitchens are more dangerous than dwelling kitchens with all the water, appliances, metal prep tables and large amp rating of the equipment.

In the amendment the financial analysis is greatly over inflated. $2500 to $5000 is not correct.

Large 3 phase breakers up to 60 amps are between $490 (Exhibit 1) (Exhibit 2) $696 and for two pole breakers at 50 amps is $145 (EXHIBIT 3). Breaker from 60 amps 3 phase to 100 amps could be around $1000. Or a shut trip breaker with a GFCI controller would be a lot less than the amendment cost indicated.

Electrocutions are still happening in kitchens (EXHIBIT 4)

Exhibit 5 is the common Electrical Hazards in the commercial kitchens.

Exhibit 6 is from the US DEPARTMENT OF LABOR and refers to GFCI protection in commercial kitchens.

Exhibit 7 from NIOSH recommendation.

Life safety should be the top reason for amendments, not cost saving. Removing this from the NEC could mean more electrocutions.

The sub-committee could have found sections in the code that did not affect life safety, out of the 1400 plus new changes in the NEC.

I hope there is no electrocution in NH because of this amendment. We do require this in Portsmouth and because of this I will sleep well at night.

NEW HAMPSHIRE STATE BUILDING CODE

PROPOSED AMENDMENT FORM

Proposed amendment submitted by:

Name: William D. Fraser

Date: 17 May 2021

Company /Organization: Building Code Review Board, NEC Subcommittee

Address: _____

Telephone: (603) 524-2769 E-mail: bfraser@geicorp.net

Applicable code: Applicable code section:

Select only one code: *IEBC-15* *IBC-15* *IRC-15* *IPC-15* *IMC-15* *IECC-15* *IEBC-15* ***NEC-20 (NFPA 70)***

Current language (including section numbers and include prior adopted amendments):

210.8(B) Other Than Dwelling Units. All 125-volt through 250-volt receptacles supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, and all receptacles supplied by three-phase branch circuits rated 150 volts or less to ground, 100 amperes or less, installed in the locations specified in 210.8(B)(1) through (B)(12) shall have ground-fault circuit-interrupter protection for personnel.

(6) Indoor damp and wet locations

Check one: ___ Delete without substitution: ___ Add new section to read as follows:

___ Delete section and substitute the following: _X_ Revise section to read as follows:

~~Show Line through material to be deleted.~~ Underline material to be added.

Proposed code language:

210.8(B) Other Than Dwelling Units. All 125-volt ~~through 250-volt~~ receptacles supplied by single-phase branch circuits ~~rated 150 volts or less to ground, 50~~ 20 amperes or less, ~~and all receptacles supplied by three-phase branch circuits rated 150 volts or less to ground, 100 amperes or less,~~ installed in the locations specified in 210.8(B)(1) through (B)(12) shall have ground-fault circuit-interrupter protection for personnel.

(6) Indoor ~~damp and~~ wet locations

Reason / Justification:

There is an unnecessary cost burden associated with the expanded requirements for ground fault circuit interrupter protection for personal.
Damp, although a defined term remains subjective, and understanding precisely what is considered a damp location can and does differ by individual designers, installers and inspectors, no consensus

Financial Analysis/Fiscal Impact of proposed amendment:

The cost to install GFCI protection for personal for cord and plug connected equipment above 30 amps is estimated at $ 2,500.00 to 5,500 per piece of equipment, if there is not a commercially available GFI Breaker.

Rexel

/ Power Distribution / Circuit Breakers / Residential / Ground Fault

SQUARE D

Breaker, 3-Pole, 30 Amp, 120 VAC, GFCI, Type QO, 10kAIC

Item #: 410139 Cat #: QO330GFI UPC: 785901218975

Sign In or Register to view pricing and more.

(0) Write a review

30 Amp, 3-Pole, Type QO, Ground-Fault Circuit Interrupter (GFCI), 10 kAIC, 120V AC.

View product detail below

$490.00

Product Overview

30 Amp, 3-Pole, Type QO, Ground-Fault Circuit Interrupter (GFCI), 10 kAIC, 120V AC.

Also known as: 785901218975, QO330GFI

Documents

Cut Sheet -

Cut Sheet -

Exhibit 1

Frequently Bought Together (25) VIEW ALL

Square D QON403L60N O...	Square D SQD QO320GFI...	Hubbell-Raco 232 4" Square B...	Square D QO120 Breaker,...	Square D QOU120 Breaker...	Square D QO215GFI Breal

Specifications

Phase:	3	Poles:	3
Type:	Miniature, GFCI, Breaker	Family / Style:	QO
Volts AC:	120	Amps:	30
Interrupt Rating DC:	10000	Mounting:	Plug on
Standards:	California Proposition 65		

Customer Reviews

Exhibit 2

$685.00
$512.00

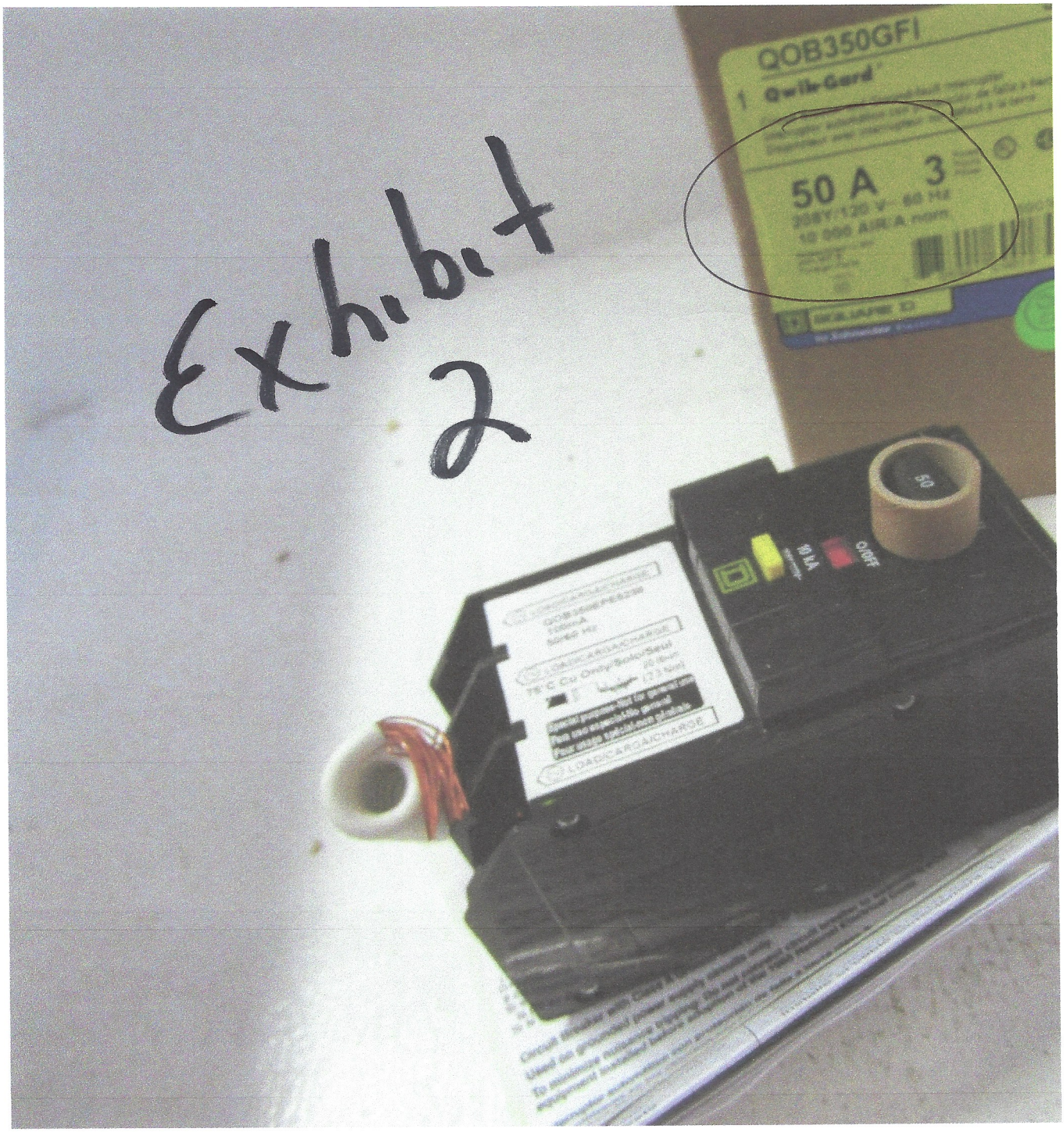


Exhibit 2

~~$ 1[illegible]~~ 00
$ 696 00
~~$~~ 512 10

INDEPENDENT ELECTRIC SUPPLY
Your Complete Electrical Wholesale Source!
177 GAY ST.
MANCHESTER NH 03103
603-627-2220 Fax 603-626-8283

Quotation

QUOTE DATE	QUOTE NUMBER
07/20/21	S2321690

ORDER TO:
INDEPENDENT ELECTRIC SUPPLY
177 GAY ST.
MANCHESTER NH 03103
603-627-2220 Fax 603-626-8283

PAGE NO: 1

QUOTE TO:
COD - MANCHESTER
177 GAY ST.
MANCHESTER, NH 03103

SHIP TO:
COD - MANCHESTER
CITY OF PORTSMOUTH
JOHN PLOURDE
MANCHESTER, NH 03103

CUSTOMER NUMBER	CUSTOMER ORDER NUMBER	RELEASE NUMBER	SALESPERSON
6509	QUOTE		HOUSE SALES ACCOUNT

WRITER	SHIP VIA	SHIP DATE	FREIGHT ALLOWED
RON CHEVRETTE	PICK UP NOW	07/21/21	No

ORDER QTY	PART NO	DESCRIPTION	Unit Price	Net
1000e	7917	COPPER ROMEX 12/2-WG 250' COIL 98010026305	692.424/m	692.42
1000ea	28276	COPPER MC 12/2 250FT COIL	688.235/m	688.24
1ea	215471	ETN GFTCB250 2 POLE 50A GFST, 120/240V, 10 KAIC, #14-4 AWG	145.946/ea	145.95
1ea	232800	ETN GFTCB230 BR 2 Pole 30A Ground F	78.541/ea	78.54
1ea	27906	ETN BR230 BR Circuit Breaker 10K	14.583/ea	14.58
1ea	28000	ETN BR250 BR Circuit Breaker 10K	14.847/ea	14.85
1ea	193709	P&S 3232-W RECEP DUP 15A125V SCREW	65.972/c	0.66
1ea	132881	P&S 3232-TRW TR DUP REC 15A125V	1.264/e	1.26
1ea	28994	CUTLER BR340 BR Circuit Breaker 78667636785	104.500/ea	104.50
1ea	163661	ETN CHSPT2ULTRA SURGE PROTECTION TYPE 2 SPD	163.785/ea	163.78
		TAXES NOT INCLUDED		

Exhibit 3

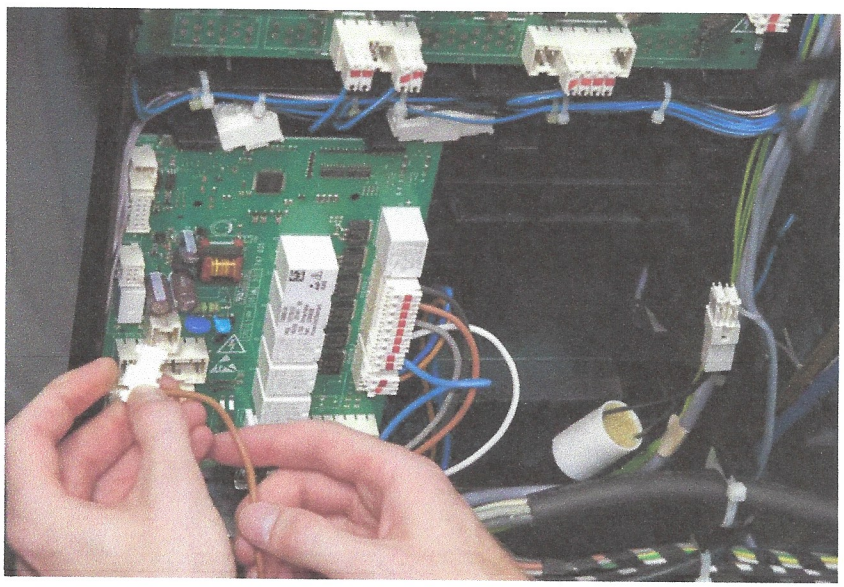
PRICING IS SUBJECT TO CHANGE WITH CURRENT MARKET CONDITIONS. FREIGHT AND FUEL SURCHARGES MAY APPLY.

Subtotal	1904.78
S&H CHGS	0.00
Amount Due	1904.78

Exhibit 4

Fatal electrocution of catering engineer leads to call for kitchen law change

SERVICE by ANDREW SEYMOUR on 11TH AUGUST 2020



Urgent amendments to wiring regulations in commercial kitchens are necessary following the tragic death of an engineer working on a catering appliance, industry trade bodies have argued.

The Foodservice Equipment Association (FEA) and Catering Equipment Distributors Association (Ceda) have issued an advisory notice covering the installation and servicing of electrical equipment.

It calls for all new installations of electrical equipment to be protected by an RCD (Residual Current Device) or RCBO (Residual Current Breaker with Overload protection).

Story continues below

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'Screwfix for chefs' – Nisbets expands multi-channel format for catering equipment


Oakman says its ventilation systems are "much more robust" than majority of restaurants


SSP Group CEO resigns from role to pursue new venture

Exhibit 5

Common Electrical Hazards in the Commercial Kitchen

Author: Jason Rahm

With all electrical implements, there is the threat of electrocution. Commercial kitchen employees face an increased risk because water spills and grease fires will only increase the dangers faced by electricity. Whatever the restaurant area, the Occupational Safety and Health Administration (OSHA) has specific standards and suggestions to minimize the threat of electrocution.

Potential Hazards

All restaurant employees face the danger of electrocution, psychological shock or even death when working around electrical equipment in the commercial kitchen. The hazardous areas which pose the greatest threat are:

- Worn electrical cords on countertop cooking equipment.
- Wet cleaning practices.
- Faulty wiring or restaurant equipment.
- Damaged outlets or connectors.
- Improperly used or damaged extension cords.

What Employees Can Do to Protect Themselves

Restaurant employees rely on their supervisors to provide a safe working environment, but it is up to the worker to keep an eye out for electrical hazards and report them to the manager immediately. Also, when working with electrical equipment, there are several things commercial kitchen workers can do to prevent any accidents.

- Know how to shut off power in case of an emergency.
- Keep the power cord away from the equipment when in use.
- Pull on the plug itself, not the cord when unplugging equipment.
- Use ceiling or floor plugs rather than running cords across an aisle.
- Avoid touching the prongs of a plug while inserting it into an outlet.
- Do not touch a person that is being shocked. Wait until the power is turned off.
- Do not plug something in if the cord is wet or if you are touching a wet surface.
- If extension cords are warm when in use, they are being overloaded and can cause a fire or electrocution. Find a thicker extension cord.

What Employers Can Do to Protect Employees

Exposed Electrical Box

Exhibit 5

- Use ground fault circuit interrupters (GFCIs). This type of outlet has a built-in circuit breaker and stops the flow of electricity before a dangerous amount passes through a person's body.
- Ensure that exposed electrical boxes (those on the outside of the wall) are made of a non-conductive material, like plastic, so touching the box does not act as a ground and electrocute the person.
- Properly label all circuit breakers or fuse boxes so corresponding fixtures and outlets are easy to identify. Switch off circuit breakers in case of an emergency.
- Provide heavy-duty extension cords and power strips for employees to use so a single cord or circuit is not overloaded.

OSHA Standards

Grounding an Electrical Current

All forms of electricity, whether a bolt of lightning or an outlet, seek the quickest route to the earth. Electrical circuits and pieces of equipment have a separate wire, called a ground, that provides that route should there be any faulty wiring. If wiring is faulty and the item is not properly grounded, the outside of the machine or electrical outlet could become energized. Any person that touches the energized item will act as the ground and suffer electrocution.

The Occupational Safety and Health Administration has developed the following standards to protect employees from electrocution:[1]

- **Standard 1910.22(b)(1).** Establishments must provide floor or ceiling plugs so equipment power cords do not run across walkways.
- **Standard 1910.303(g)(1).** There must be sufficient space to work around and service electrical equipment at all times.
- **Standard 1910.304(f)(5)(v).** All electrical outlets near sources of water must be properly grounded.
- **Standard 1910.334(a)(2)(ii).** Cords, receptacles and portable electronic equipment that are damaged must be removed from service and repaired before they can be used again.
- **Standard 1910.334(a)(5)(i).** Managers must train employees not to plug or unplug equipment when their hands are wet.

[1] Occupational Safety and Health Administration, "Youth Worker Restaurant Safety," http://www.osha.gov/SLTC/youth/restaurant/index.html (accessed November 4, 2008).

Information obtained from FSW (Food Service Warehouse) website www.foodservicewarehouse.com

Exhibit 6

Cooking

The Cooking area of a restaurant offers young workers an opportunity for developing cooking skills, while learning to handle equipment and organize tasks. Young workers in this area may also be exposed to the following hazards:

- Deep Fat Fryers
- Burns
- Strains and Sprains
- Fire Hazards
- Heat Hazards
- Slips/Trips/Falls
- Electrical Hazards

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Electrical Hazards

Potential Hazard

There are many electrical hazards in commercial restaurant kitchens because of the variety of electrical appliances in use. Young workers may be exposed to electrocution, shock, or death from unsafe work practices, faulty electrical equipment or wiring, or use of damaged receptacles and connectors.

Possible Solutions

Young Worker Solutions

Employers have the primary responsibility for protecting the safety and health of their workers. Employees are responsible for following the safe work practices of their employers.

- Workers should know:
  - **Emergency** procedures and policies for their workplace.
  - **How** to shut off the current in case of an emergency.
  - **How** to perform CPR.
  - **To** pull the plug, not the cord when unplugging equipment.
  - **To** keep power cords clear of equipment during use.
  - **To** use ceiling plugs rather than draping cords across aisles.
  - **Not** to touch a worker being shocked until the power has been turned off.
  - **Not** to use faulty equipment or damaged receptacles and connectors.
  - **Not** to plug in electrical equipment while touching a wet or damp surface.
  - **Not** to use cords that are worn or damaged or cords that feel warm during use; they have the potential to start a fire. Use a higher capacity cord or a multi-outlet power strip unit with a built-in circuit breaker instead of an extension cord. Do not use equipment cords that feel warm during use have them checked by an electrician.
  - **To** report unsafe equipment and work practices to your employer immediately.

Receptacle type (GFCI)

Employer Solutions

Employers have the primary responsibility for protecting the safety and health of their workers. Employees are responsible for following the safe work practices of their employers.

Follow OSHA Standards including:

- Ensure that all electrical service near sources of water is properly grounded [1910.304(g)].
  - Grounding requirements for equipment connected by cord and plug. OSHA Standard Interpretation, (1999, December 21).
- Ensure that electrical equipment is free from recognized hazards [1910.303(b)(1)].
- Repair all damaged receptacles and portable electrical equipment before placing them back into service [1910.334(a)(2)(ii)].

Grounded cord

Damaged cord

Consider implementing recommended safe work practices, including:

The National Institute for Occupational Safety and Health (NIOSH) recommendations:

- Use ground fault circuit interrupters (GFCIs) in situations where electricity and wetness coexist. GFCIs will interrupt the electrical circuit before current sufficient to cause death or serious injury has passed through a body.
- Exposed receptacle boxes be made of nonconductive material so that contact with the box will not constitute a "ground."
- Plugs and receptacles be designed to prevent energization until insertion is complete.

Additional Resources

- Preventing Electrocution of Workers in Fast Food Restaurants. NIOSH Pub No. 85-104, (1984, December).
- Preventing Electrocutions from Damaged Receptacles and Connectors. NIOSH Pub No. 87-100, (1986, October).

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U.S. Department of Labor | Occupational Safety & Health Administration | 200 Constitution Ave., NW, Washington, DC 20210
Telephone: 800-321-OSHA (6742) | TTY
www.OSHA.gov

Exhibit 7